

416-8B LOW FREQUENCY LOUDSPEAKER



DESCRIPTION

The ALTEC 416-8B is a 16" low-frequency loudspeaker of professional quality that is ideal for use in wide-range sound reinforcement and high-fidelity systems. Performance is characterized by smooth response with extraordinary linearity.

A structurally reinforced frame, rigid enough to permit front or rear mounting, supports a heavy permanent magnet providing high flux density.

The low-mass voice coil is made from edge-wound copper ribbon to provide more turns of wire in the voice-coil gap. The cone suspension has exceptionally high compliance for accurate reproduction of low frequencies.

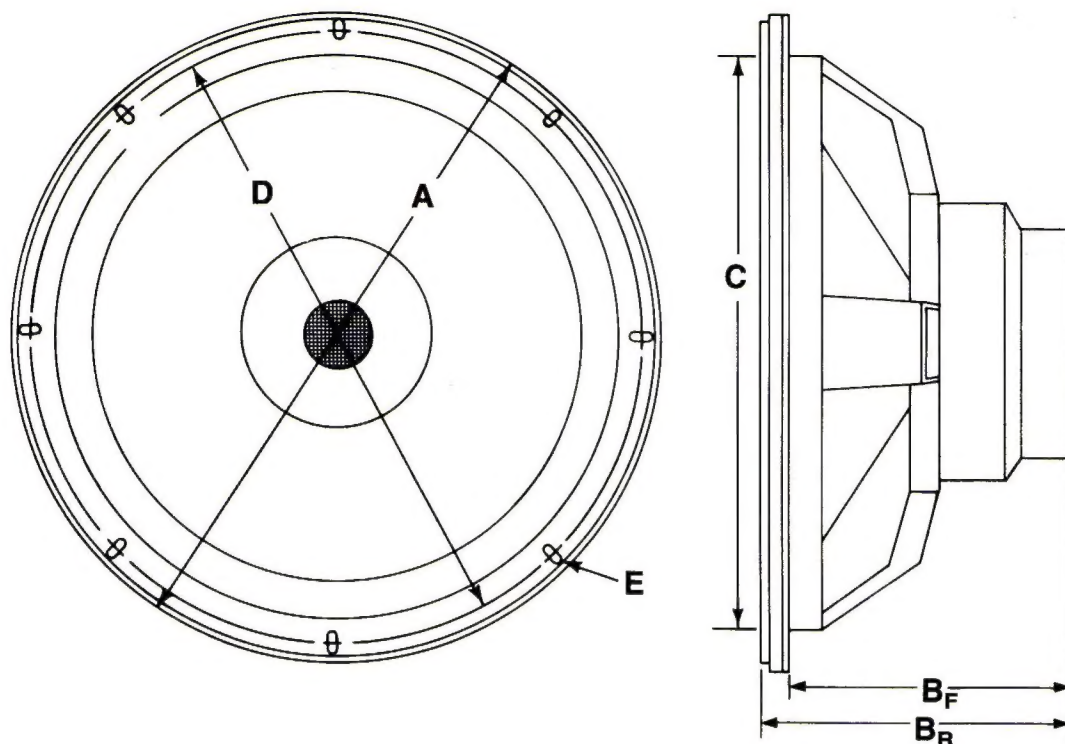
The 416-8B loudspeaker complements a wide selection of ALTEC-designed enclosures.

SPECIFICATIONS

Frame Diameter:	16"
*Power Rating:	150 watts program material 75 watts continuous pink noise band-limited
Frequency Response (Hz):	30-1600
Pressure Sensitivity (1 watt (E^2/Z min) with pink noise band-limited 100-1000 Hz):	98 dB at 1 meter
Maximum Sound Pressure (Full power (E^2/Z min) with pink noise band-limited 100-1000 Hz):	117 dB at 1 meter
Impedance:	8 ohms minimum
Maximum Excursion Before Damage (Peak to Peak):	.70 in.
Voice Coil Diameter:	3 in.
Thiele-Small Parameters —	
Free-Air Resonance (f_s):	24 Hz
Equivalent Volume Compliance (V_{AS}):	22.9 ft ³
Total Q (Q_{TS}):	.23
Electrical Q (Q_{ES}):	.24
Mechanical Q (Q_{MS}):	6.4
Reference Efficiency (η_0):	3.6%
D.C. Resistance (R_E):	6.5 ohms
Peak Linear Displacement (X_{MAX}):	0.13 in.
Peak Linear Volume Displacement (V_D):	16.6 in. ³
Effective Surface Area of Driver Diagram (S_D):	128 in. ²
Additional Parameters —	
Effective Piston Diameter:	12.75 in.
Voice Coil Inductance:	2.5 m H.
BL Factor:	16.0
Magnet Type:	Alnico
Magnet Weight:	39 oz.
Flux Density:	1.1 Tesla
Mounting Information —	
Baffle Opening Diameter:	14 1/8" (35.87 cm)
Mounting Bolt Circle Diameter:	15" (38.1 cm)
Loudspeaker Depth (front mounting):	6 1/4" (15.88 cm)
Loudspeaker Depth (rear mounting):	7" (17.78 cm)
Weight:	17.5 lbs (7.94 kg)

* AES power rating measured E^2/Z min where $E = 25V$, $Z = 8\Omega$, band-limited 40-400 Hz.

(AES Recommended Practice Specification of Loudspeaker Components Used in Professional Audio and Sound Reinforcement. See J. Audio Eng. Soc., Vol. 30, No. 3, 1982 March.)



LOUDSPEAKER MOUNTING DIMENSIONS

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| (A) Loudspeaker Diameter: 16" (40.64 cm) | (C) Baffle Opening Diameter: 14 $\frac{1}{8}$ " (35.87 cm) |
| (B _F) Depth When Front Mounted: 6 $\frac{1}{4}$ " (15.88 cm) | (D) Bolt Circle Diameter: 15" (38.1 cm) |
| (B _R) Depth When Rear Mounted: 7" (17.78 cm) | (E) Bolt Hole Slots: $\frac{1}{4}$ " (0.64 cm) \times $\frac{3}{4}$ " (2.02 cm); 8 slots spaced 45° apart. |

ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

The low-frequency loudspeaker shall meet the following criteria. AES power rating up to 75 watts of band-limited pink noise (40-400 Hz). Frequency response, uniform from 30-1600 Hz when mounted in a suitable enclosure. Pressure Sensitivity, 98 dB SPL when measured at 1 meter on axis from front edge of the system with one watt of band limited pink noise from 100-1000 Hz (Ref.: 0.0002 dyne/cm²). Minimum impedance, 8

ohms. Nominal free-air LF cone resonance, 24 Hz. The voice coil shall be 3" in diameter, driven by an alnico magnet having a flux density of 1.1 Tesla. Dimensions, 16" diameter \times 7" deep. Weight, 17.5 pounds.

The low frequency loudspeaker shall be the ALTEC LANSING Model 416-8B.



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